WHAT IS CLAIMED IS:

1.   A recording state detection system comprising:

a data correction unit having a data correction function, said data correction unit receiving an encoded sample data series to output a first data series, said encoded sample data series being read from recorded data digitally recorded on a recording disk;

a normal level judgement unit for receiving said first data series to estimate a normal level for each sample of said encoded sample data series to output a normal level data series;

an error calculation unit for calculating a difference between each sample of said encoded sample data series and a corresponding data of said first data series to output an error data series;

a state calculation unit for estimating a state of the recorded data including information of an amplitude of the recorded data based on said error data series and said normal level data series.

2.   The recording state detection system as defined in claim 1, wherein said data correction unit uses a Viterbi algorithm.

3.   The recording state detection system as defined in claim 1, wherein said data correction unit corrects a waveform of said encoded sample data series.

4.   The recording state detection system as defined in claim 1, wherein said state of the recorded data further includes asymmetry information of the recorded data.

5.   The recording state detection system as defined in claim 1, wherein said error calculation unit comprises a timing section for delaying said encoded sample data series, a filter for passing therethrough said first data series, and a subtracter for calculating a difference between each sample of said delayed encoded sample data series and a corresponding data of said first data series passed by said filter.

6.   The recording state detection system as defined in claim 1, wherein said state calculation unit comprises:

a plurality of discriminators each for selecting an error data of said error data series based on information of said estimated normal level of said each data,

a plurality of integrators, each disposed for a corresponding one of said discriminators, for integrating said selected error data to output an integrated data; and

an amplitude calculator for calculating a difference between said integrated data corresponding to a maximum of said normal levels and a minimum of said normal level to output an amplitude signal;

a mean calculator for calculating a mean value of said

integrated selected error data corresponding to said maximum of

15 said normal levels and said integrated selected error data

corresponding to said minimum of said normal levels; and

a subtracter for calculating a difference between said

integrated selected error data corresponding to median of said

normal levels and said mean value.

7.   The recording state detection system as defined in claim 1,

wherein said state calculation unit comprises:

a plurality of discriminators each for selecting an error data

of said error data series based on information of said estimated

5 normal level of said each data,

a plurality of integrators, each disposed for a corresponding

one of said discriminators, for integrating said selected error data

to output an integrated data; and

a mean calculator for calculating a mean valve of said

10   integrated selected error data from said plurality of integrators.

8.   A disk drive unit comprising the recording state detection

system as defined in claim 1.